Dixon Systems

Stereo Rack Monitor

Model RM-35

Owner’s Manual

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1-1 Description:

Dixon System's RM-35 is a self contained, rack mountable, stereo amplifier and speaker monitor system designed to compliment the NM-250 Newsroom Mixer. The unit employs a high quality stereo audio amplifier driving two three by five inch shielded speakers, each in it's own acoustically treated 'enclosure'. The result is exceptional audio quality, very low distortion and outstanding stereo separation. The shielded speakers, along with the toroidal power transformer in it's power supply, eliminate the concern about placing the unit in close proximity to video and computer CRT monitors.

There is only one control on the front panel. This allows the operator to switch between 'Stereo' and 'Mono' mode to check phase and mono compatibility. This is done with true L+R summing and with no change in volume. LEDs indicate Power and Stereo or Mono mode.

**(The RM-35 is also available with the gain control mounted on the front panel when it's not used with the NM-250.)

The RM-35 can be used in newsrooms and editing suites or with modulation monitors and logging systems. It's a valuable accessory in a wide variety of facilities and installations.

1-2 Features:

The RM-35 uses 2 premium quality shielded speakers, each in it's own 'enclosure' inside the unit. The stereo amplifier and power supply are in the center of the unit. To keep things clean and quiet, 1% low noise metal film resistors are used in the signal path of the amplifiers. The result is clean, very low distortion audio and a better stereo image. Audio inputs are on the rear panel and are the 'combo' type which accept either XLR or quarter inch TRS connectors. The gain control is also located on the rear panel. (See 'Set Up")

1-3 Technical Description:

The input stage of the RM-35 is a 5532 configured as a differential amplifier. This permits either a balanced or an unbalanced source. The unit is designed for a nominal +4 dB input level. The input stage then feeds a resistive network and an analog switch, a 4053, followed by a summing amplifier, again a 5532. Gain is set in the following stage, another 5532 and the output stage is a typical NPN/PNP driver/output pair. The amplifier drives a pair of 3" by 5" speakers, each in it's own compartment or 'enclosure' which has been acoustically damped. This results in better audio and less vibration of the enclosure itself.

1-4 Unpacking and Inspection:

Carefully examine the contents of the shipping carton for any sign of physical damage which could have occurred in transit.

> IF DAMAGE IS EVIDENT, DO NOT DESTROY ANY OF THE PACKING MATERIAL OR CARTON AND IMMEDIATELY NOTIFY THE CARRIER OF A POSSIBLE CLAIM FOR DAMAGE. SHIPPING DAMAGE CLAIMS MUST BE MADE BY THE CONSIGNEE.

1-5 Mounting:

The unit should be mounted where convenient to the operator, ideally at approximately ear level for best fidelity and stereo image. It's excellent magnetic shielding means it can be placed close to CRTs without concern.

1-6 Heat Dissipation:

The RM-35 will operate satisfactorily over a wide range of ambient temperatures. If installed in an area with high heat producing equipment, adequate ventilation should be provided to prolong the life of components. Heat generated by the amplifier is dissipated into the center compartment of the unit. The lid is vented and there should be some space between the RM-35 and whatever is mounted above it. With normal use, no other special considerations for cooling are necessary.

1-7 General:

The RM-35 is ruggedly constructed and should provide years of trouble free use with normal care. All parts are conservatively rated for their application and workmanship meets the rigid standards professional users expect.

No special preventive maintenance is required.

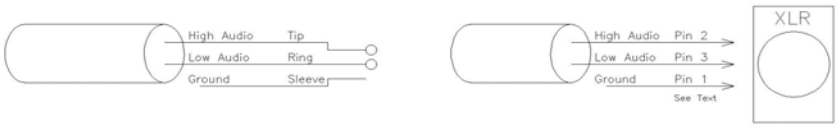
1-8 Set Up:

The RM-35 can be set up in a few easy steps. Once the unit has been inspected, slide and secure the monitor into the rack. Connect the audio signals via XLR or quarter inch TRS connectors. Plug the unit into the AC mains. (The RM-35 operates from 110VAC - 60Hz power.)

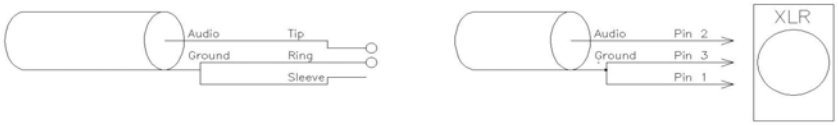
Adjust the volume control on the rear panel. The RM-35 is designed to be driven by a balanced source at a nominal +4 dB level. When used with the NM-250, the volume control on the RM-35 should be at approximately 'one o'clock'. If used with another audio source, be sure the monitor is not over-driven. **AVOID CLIPPING!** Audible distortion (or other nasty things) will occur.

Best performance is achieved when using balanced, shielded cable; however satisfactory results can sometimes be realized without it. The design of the input stage permits unbalanced sources to be applied to the balanced inputs. The drawings below show both balanced and unbalanced connections. (Only one channel is shown.)

Balanced



Unbalanced

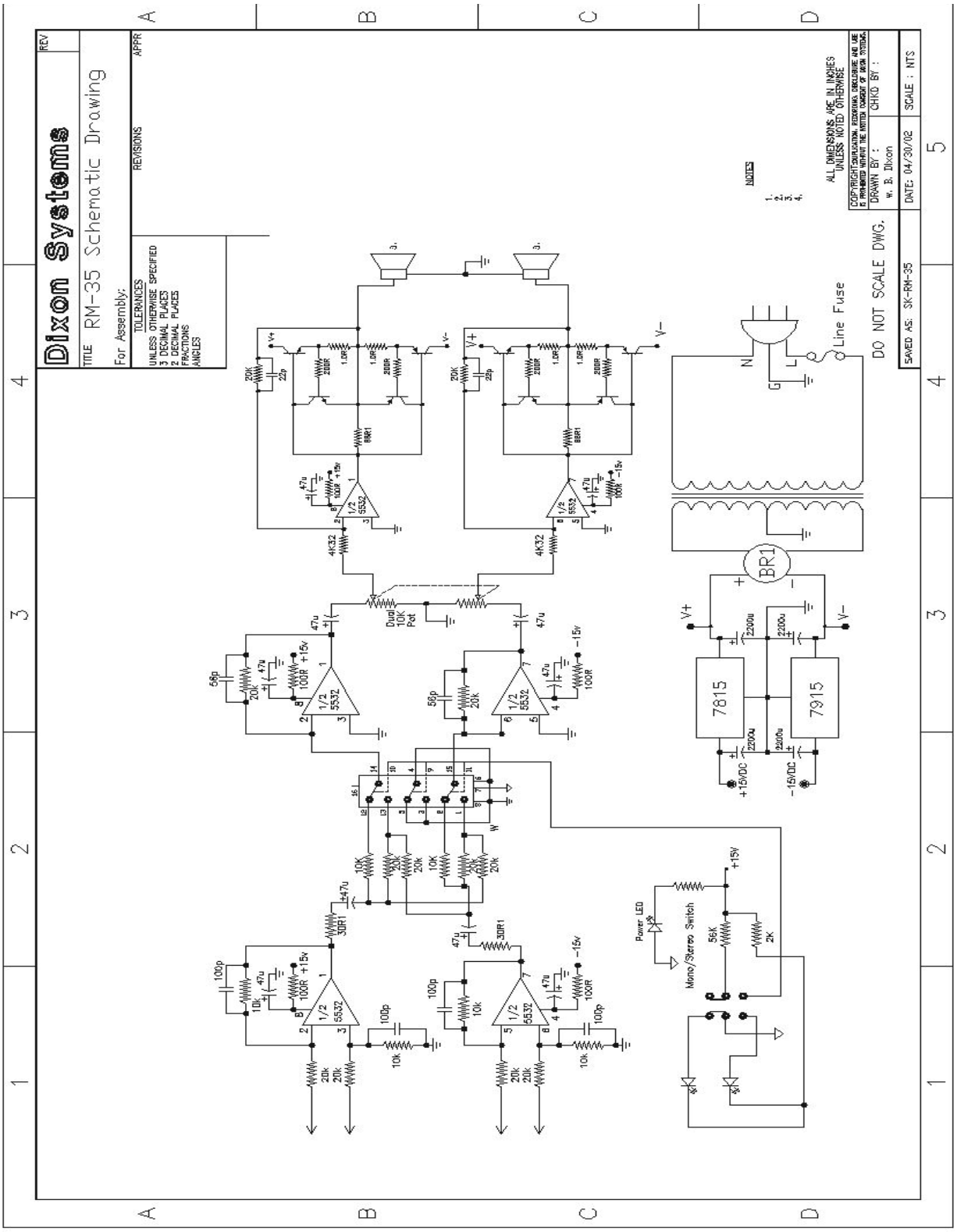


Note: *When using balanced line, only one end of the line should be grounded. This will help avoid ground loops. As shown above, the ground would be connected at the 'send' end and not connected to the RM-35.*

1-9 Amplifier Specifications:

Input Impedance:	40kOhms
Load Impedance:	8 Ohms
Maximum Output Level	> 1 W per Ch. RMS
Gain:	Adjustable
Frequency Response:	< .5 dB 20 Hz to 20 kHz
Total Harmonic Distortion:	Better than .5%
Noise:	Better than 90 dB
Power Requirements:	110 VAC/ 60 Hz 15 W

1-10 Schematic Diagram:


Dixon Systems
TITLE RM-35 Schematic Drawing
For Assembly:
REVISIONS
APPR
REV
TOLERANCES
UNLESS OTHERWISE SPECIFIED
3 DECIMAL PLACES
2 DECIMAL PLACES
FRACTIONS
ANGLES
NOTES
ALL DIMENSIONS ARE IN INCHES
UNLESS NOTED OTHERWISE
DRAWN BY : w. B. Dixon
CHKD BY :
DATE: 04/30/02
SCALE : NTS
SAVED AS: SK-RM-35
DO NOT SCALE DWG.
Line Fuse
BR1
7815
7915
Dual 10K Pot
Power LED
Mono/Stereo Switch
+15VDC
-15VDC

1-11 Notes:

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